



U. S. National Arboretum

#

1959 CATALOGUE

WHEELER & DEWITT

Hybridizing Gardens



CHRISTMAS GIVING

Begonias

Here is a *really* different way to say "Merry Christmas" to your family and friends . . . a gift of superb V&R tubers will be sent to the recipients you name at the proper planting time. And . . . at Christmas time they will receive a beautifully illustrated gift card which will be personalized with your name as gift donor. The beautifully printed advance Christmas card shows one of the newer origination tuberous begonias developed by Vetterle & Reinelt.

Simply indicate on your order blank the name and address of the recipient of your gift, the tuber selection . . . and we'll do the rest.

VISITORS WELCOME

February and March is the Primrose time at our Capitola grounds.

The finest collection of Tuberous Begonias in the world can be seen in our greenhouses during July and August in Capitola. Over 5000 specimens of all types and colors demonstrating all the new advances in breeding are on display, making any flower show look insignificant in comparison. More than 50,000 visitors come to view the display each year during the summer months.

Our main fields of begonia seedlings are located on Mission Street in Santa Cruz and at La Selva Beach, near Aptos. Here solid sheets of color can be seen during September and October.

2/10/69

Rose form type

TUBEROUS BEGONIAS

SPECIAL SELECT TUBERS

Contrary to the practice of propagating named varieties of tuberous Begonias, we offer selected seedling tubers instead. Propagation of individual varieties is costly and slow, so that by the time a sufficient amount has been reproduced for introduction they are already obsolete as compared with seedlings. Breeding is advancing so rapidly that today's choice is the discard of tomorrow. During

flowering season we select and mark all the choicest new seedlings which are above average in size, form and color. We are offering tubers of these to connoisseurs who desire only the finest for their gardens.

Tubers—Delivery, January-March.

Large size.....\$1.50 ea.; \$15.00 per doz.

Medium size.....\$1.00 ea.; \$10.00 per doz.





Rose form type

CONTINUED

The ultimate classical form in tuberous begonias is that resembling the roses for which we have been striving, selecting and breeding for years. The transition from Double Camellia form from which the Rose form was developed is not fully completed. However, these plants formerly listed as double camellia type are now more of a Rose form, although some percentage will still resemble the Double Camellia.

AVAILABLE COLORS

White, Pink, Rose, American Beauty, Cardinal Red, Scarlet, Dark Red, Yellow, Apricot, Orange, Flame Orange, Blush Salmons, Pink Salmons, Light Salmons, Dark Salmons.

TUBERS

Delivery, January-March.

Large size 75c ea.; \$7.50 doz.; \$60.00 per 100

Medium size 50c ea.; \$5.00 doz.; \$40.00 per 100

6 MK. Colors

SEEDLING PLANTS

Available in May and June.

\$6.50 per 25; \$25.00 per hundred, FOB CAPITOLA.

Due to cost of packing no orders for less than 25 accepted.

SEED

Available from December on.

Artificially cross-pollinated from the finest plants in existence.

\$3.00 per packet; \$1.50 per half packet (straight colors or mixture).

Ruffled Camellia type

TUBEROUS BEGONIAS

We developed this spectacular new form by interbreeding the old fimbriata plena with the best forms of the double camellia type. Each year new advances in size, form and quality seem to supercede the achievement of the past. They were designed primarily for cut flower purposes, but the beautiful variations of frilling, ruffling and scalloping that appears amongst these new forms made it one of the most popular group of begonias today. They are enormously vigorous and in some colors 8" and 9" flowers are quite common. In this group also are some of the most mildew resistant plants.

AVAILABLE COLORS

White, Pink, Rose, Cardinal Red, Scarlet, Dark Red, Yellow, Apricot, Orange, Flame, Blush Salmon, Pink Salmon, Light Salmons, Dark Salmons.

TUBERS

Delivery, January-March.

Large size 75c ea.; \$7.50 doz.; \$60.00 per 100

○ Medium size 50c ea.; \$5.00 doz.; \$40.00 per 100

6 Mx. Colors

SEEDLING PLANTS

Available in May and June.

\$6.50 per 25; \$25.00 per hundred, FOB CAPITOLA.

Due to cost of packing no orders for less than 25 accepted.

SEED

Available from December on.

Artificially cross-pollinated from the finest plants in existence.

\$3.00 per packet; \$1.50 per half packet (straight colors or mixture).



Ruffled Camellia type

CONTINUED

SPECIAL SELECT TUBERS

Contrary to the practice of propagating named varieties of tuberous Begonias, we offer selected seedling tubers instead. Propagation of individual varieties is costly and slow, so that by the time a sufficient amount has been reproduced for introduction they are already obsolete as compared with seedlings. Breeding is advancing so rapidly that today's choice is the discard of tomorrow.

During flowering season we select and mark all the choicest new seedlings which are above average in size, form and color. We are offering tubers of these to connoisseurs who desire only the finest for their gardens.

Tubers—Delivery, January-March.

Large size.....\$1.50 ea.; \$15.00 per doz.

Medium size.....\$1.00 ea.; \$10.00 per doz.



CULTURE OF TUBEROUS BEGONIAS

PLANTING DORMANT TUBERS

Time and effort will be conserved if Pacific Strain tubers are planted in the starting flat after they show pink buds. The planting medium is preferably a coarse hardwood leaf mold, or an organic substitute, which will not pack and become soggy, thereby excluding air. Peat moss, holding 90 per cent of its weight in water when saturated, is not recommended as a starting medium for dormant tubers. Fill a nursery flat with coarse leaf mold, and space the tubers evenly, allowing sufficient space between tubers for heavy root development, which may be considered the most important factor in the ultimate growth of fancy begonias. Bury the spaced tubers, covering with one-half inch of leaf mold. This is a very essential step, one which we wish to emphasize strongly. Its omission will preclude the full development of roots from the tuber's base, sides, and top, as nature intended. The planted flat should be WATERED CAREFULLY, maintaining even moisture, but not soggy wetness. Place flat in strong light; shield from direct sun's rays. A warm 65° to 75° temperature will hasten growth. Every effort should be made for close, compact plant growth, and prevent any suggestion of weak, spindly growth. Plants are potted, or planted in prepared beds, if the weather is favorable, when the first two leaves have reached equal development. At this stage the roots are heavy, and will adjust to transplanting.

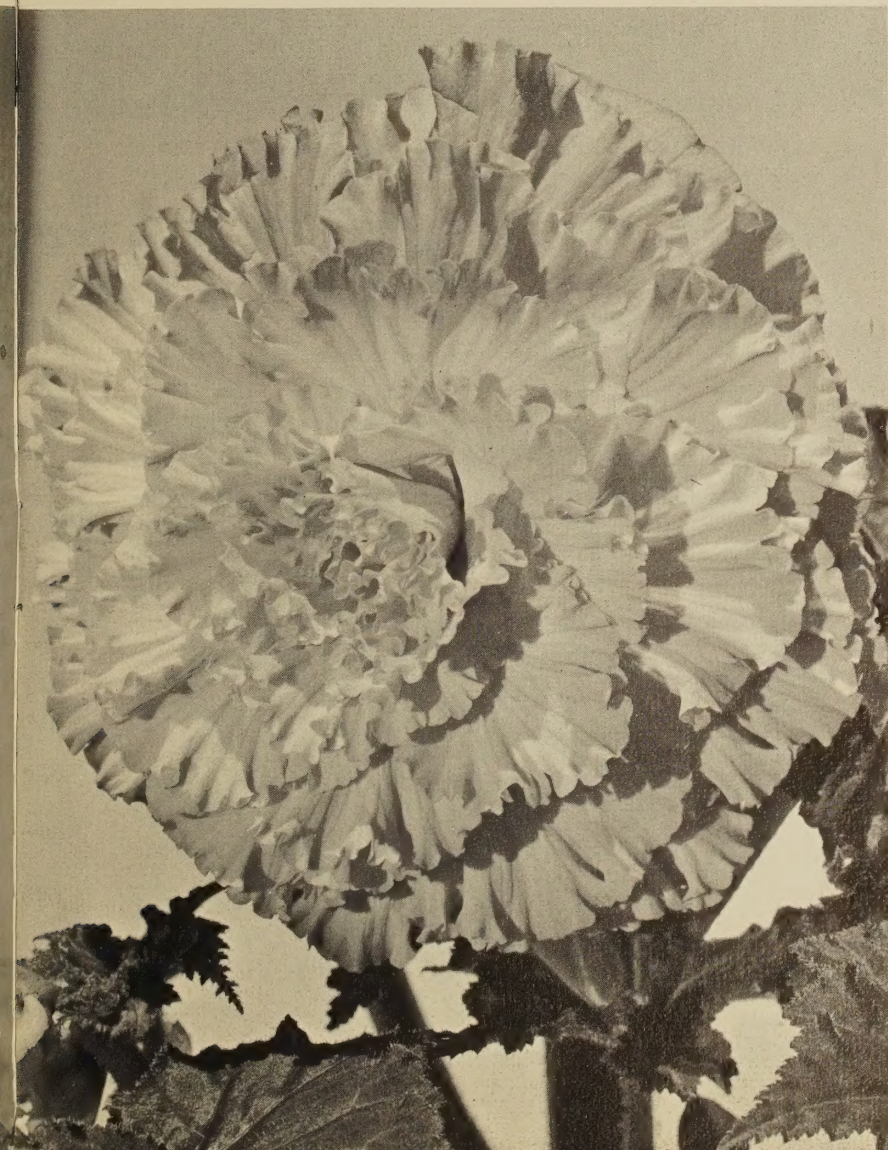
TRANSPLANTING MATURE PLANTS

Firstly, to consider transplanting from flat to pots. Begonias do not root deeply, and the shallow eight or nine inch azalea pots are preferred to the deeper pots. Our standard potting mixture consists of two-thirds partly rotted oak leaf mold and one-third coarse sand. Remove plant from starting flat carefully. Mix one handful of fish meal with enough potting mixture to fill the bottom two-thirds of pot, place plant in pot, fill in around root mass. Firm, and finish by covering top of root mass lightly with a quarter inch of potting soil. WATER CAREFULLY.

The prime soil consideration for outdoor beds of Pacific Strain tuberous begonias is perfect drainage. One-third leaf mold, one-third sand, one-third sandy loam is good. The addition of one-half sand to existing garden soil will generally drain well. If rotted cow, or steer manure is added to the bed, it should be mixed thoroughly a month in advance, and watered several times. In planting, place a handful of fish meal under the root mass, and barely cover the root mass with soil. Soil should not be pulled in contact with plant's stalk. The points of all leaves should face the front of bed, presenting a uniform appearance to finished planting. Location of planting area in relation to the sun is important, and can spell success or failure. They will not perform satisfactorily in complete shade, nor in a bright, sunny spot. If too shaded there will be little or no bloom, but lush plant growth. Excess sun will stunt and burn. The correct degree of light and shade will produce strong, compact plants, and profuse bloom. Suggested locations include the north side of buildings, light tree shade, lath houses. After transplanting, the most important consideration is CAREFUL WATERING until new roots form and growth is evident.

DIGGING AND DORMANT STORAGE

Plants should be allowed to continue growing through November, if possible. During this late period the tuber increases in size and stores up energy for next season. Pot plants may be forced into dormancy at any time by withholding water. Bedded plants may be dug with a ball of soil, placed in a dry shed if necessary to force dormancy. In the Eastern section where chance of early frost may injure the plants, they can be lifted with large amount of soil and set in basement or frostless place where they gradually will mature. The first light frosts will not harm the tuber. When foliage drops, and all growth breaks free of the tuber, wash soil free of tuber and cure in the hot sun for four days, or longer, until tuber is hard and dry. Be sure to remove all particles of the old stem from tuber. If this is neglected their decay will destroy the tuber. Store in open flats in a cool, dry place until evidence of growth is noted, usually in February or March. Remove from storage, and handle as outlined under "Planting Dormant Tubers."





Rose Form

PICOTEE

ROSE FORM PICOTEE SHADES

The most spectacular advance in tuberous begonias is the transformation of the little old marmorata into the large Rose Form Picotee of today, a process of twenty years breeding. Of all types, this group brings the highest proportion of uniformly fine form when grown from seed. The demand has risen in proportion to the advances in quality and has made them the most popular of all types. Regardless that we grow larger quantities each year, we never seem to satisfy the demand.

SPECIAL SELECT

During flowering season we select and mark all the choicest new seedlings which are above average in size, form and color. We are offering tubers of these to connoisseurs who desire only the finest for their gardens.

Tubers—Delivery, January-March.

Large size.....\$1.50 ea.; \$15.00 per doz.

Medium size.....\$1.00 ea.; \$10.00 per doz.

AVAILABLE COLORS

Red Shades, Pink-Rose Shades, Salmon Shades, Apricot.

TUBERS

- 0 Large size.....75c ea.; \$7.50 doz.; \$60.00 per 100
- ✓ Medium size.....50c ea.; \$5.00 doz.; \$40.00 per 100

6 MIX. COLORS

SEEDLING PLANTS

Available in May and June.

\$6.50 per 25; \$25.00 per hundred, FOB CAPITOLA.

Due to cost of packing no orders for less than 25 accepted.

SEED

\$3.00 per packet; \$1.50 per half packet (straight colors or mixture).

Begonias

FEEDING

For pots or beds a definite feeding program will reward the grower with stronger growth, and increased bloom. After transplanting, when active growth is observed, commence the following routine: Feed one tablespoon of California Liquid's 8-8-4, mixed in one gallon of water once a week until plants begin to flower. After plants begin to flower switch to this combination: one tablespoon of Atlas Fish Emulsion, combined with one tablespoon of California Liquid's 2-10-10 in one gallon of water once a week. Cease to fertilize by the end of September. The use of the first combination is intended to induce strong plant growth; the latter combination will harden cell structure, strengthen flower stems, provide an abundance of firm, highly colored blossoms, and store energy for the tubers' resting period. The individual must judge when plants are under fed, well fed, or over fed.

Maintain a deep green color, and a meaty thickness of leaf. A slightly turning under of the leaves is no cause for alarm, a definite "roll" indicates over feeding. Beware of a sickly yellow green, the sign of starvation. The current season's care and feeding will be reflected in the following season's flowering.

CULTURE OF HANGING BASKET BEGONIAS

Pacific Strain basket begonias have the same cultural requirements as already outlined, with minor exceptions. For the best results the larger tubers, having many flowering branches, will stage a more lavish show. Basket tubers are more sensitive to excess moisture than the standards. For this reason do not over pot and use shallow containers for planting. Baskets should be hung in a still, wind free location. Basket tubers, which do not show more than two branches at the beginning of the season, should have the tips pinched off when the first flower bud appears. This will form a fuller basket. **WATER CAREFULLY** until the plant is well rooted, and then never allow plant to become dry, or in need of fertilizer.

SPECIAL SELECT TUBERS

During flowering season we select and mark all the choicest new seedlings which are above average in size, form and color. We are offering tubers of these to connoisseurs who desire only the finest for their gardens.

Tubers—Delivery, January-March.

Large size \$1.50 ea.; \$15.00 per doz.

Medium size \$1.00 ea.; \$10.00 per doz.



DOUBLE HANGING BEGONIAS

Its hanging habit, with great masses of blooms, makes them favored for the decoration of greenhouses, open verandas or sun porches, where they can be protected against strong winds and light. We have been improving this type by interbreeding them for a number of years with the double Camellia type for the size of flower and variety of color. Our this year's offerings are further advanced, combining medium-sized flowers and good hanging habit.

AVAILABLE COLORS

White, Pink, Rose, Crimson, Salmon, Yellow, Apricot, Orange, Scarlet, Red Salmon.

TUBERS

Delivery, January-March.

Large size 75c ea.; \$7.50 doz.; \$60.00 per 100

Medium size 50c ea.; \$5.00 doz.; \$40.00 per 100

SEEDLING PLANTS

Available in May and June.

\$6.50 per 25; \$25.00 per hundred, FOB CAPITOLA. Due to cost of packing no orders for less than 25 accepted.

SEED

\$3.00 per packet; \$1.50 per half packet (straight colors or mixture).

Hanging Basket Begonias

SOWING SEED

Pacific Strain Tuberous Begonia seed is sown in January or February. The preferred seeding medium is a partially rotted hardwood leaf mold. This should be sterilized with Larvicide, to insure destruction of all harmful organisms. Screen the sterilized leaf mold through a one-half inch mesh screen, placing a thin layer of the coarse material on the bottom of a three inch deep nursery flat, or shallow box, and fill to a depth of one inch with the screened leaf mold. Firm lightly, and with a fine spray moisten thoroughly with sterilized water. As an extra precaution sterilized water should be used prior to germination, and for four weeks after seedlings appear. Coating the seed with Rootone will make the sowing of seed easier. Broadcast seed thinly on the moist leaf mold. Do not cover seed, or firm leaf mold. Immediately seal tightly with a sheet of glass, and preclude all light with a sheet of paper. A constant minimum top and bottom temperature of 74° will insure an even germination within 8 days. Moisture should be checked every other day, being especially watchful on the 6th and 7th day. Paper must be removed when seed coat is observed to be splitting, even before the green of emerging cotyledons is evident. The glass should at first be raised slightly with a match stick, and air admitted gradually, removing glass completely within a week or ten days. Seedlings must be kept evenly moist with a fine spray, and given sufficient light and air to maintain compact plant growth. Stagnant air and over watering will cause Damp-Off. A spray of one tablespoon of Zerlate to one gallon of water will control this disease. The consistent feeding of Atlas Fish Emulsion at one-third recommended strength, bi-weekly, will give the tiny plants stamina.

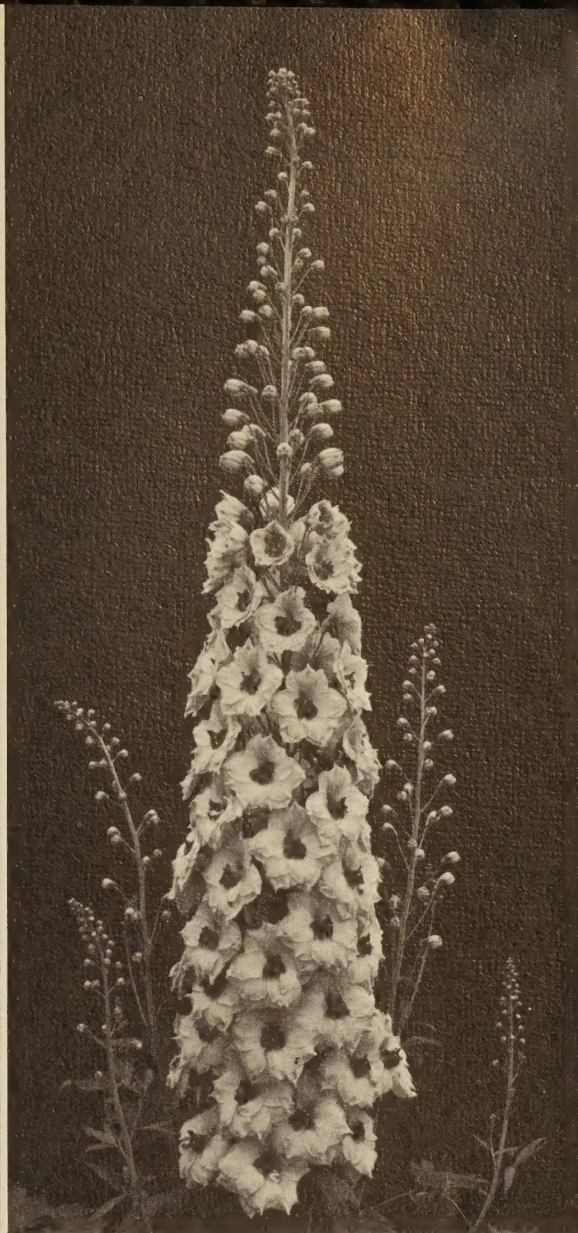


TRANSPLANTING SEEDLINGS

Transplanting is accomplished before plants crowd one another. The first transplant is usually made within eight weeks of sowing, and for heavier root systems, a second in sixteen weeks. For transplanting, fill flat with the same leaf mold, unscreened. Do not pack; leave material loose and fluffy. Continue to feed fish emulsion bi-weekly. WATER CAREFULLY, maintain even moisture, avoid soggy wetness. Seedlings will be ready for potting, or planting out in May. Recommendations for light conditions, and proper potting and outdoor planting methods are outlined under tuber culture, and will apply for seedling plants.

CARE, INSECT, AND DISEASE


Begonias are comparatively free of diseases. Powdery mildew is the No. 1 enemy that appeared a few years ago, and should be regularly controlled by spraying with "Mildont" or dusting with sulphur when first signs of it appear. If not controlled it will spread rapidly and destroy the planting for the season.



DELPHINIUM HYBRIDS

Delphinium can be grown successfully in every part of the United States. In the north, where cool weather and high moisture prevail they will be perennial, but become shorter lived as they go South, with increased temperatures during summer, and finally have to be treated like annual in Southern regions and Florida. Seed sown in March or April, in light mixture of soil, covered slightly with coarse leaf mold and kept continuously damp and shaded, will germinate in approximately 10/14 days. When second leaf develops, transplanted in flats or open frames they will grow rapidly if shaded against strong sunshine for the first two or three weeks. Planted in a permanent place, preferably in a light loamy soil, which has been heavily enriched with decayed manure, and an addition of bone meal, they will establish rapidly and form flowering plants by September. The following Spring, when the new shoots come through the ground, select only two or three of the largest, and

break the rest off. Addition of quick acting fertilizer, such as ammonium phosphate, will force the growth very rapidly, and according to richness of soil one can get beautiful show specimens to bloom in late Spring. After the flowering, water should be somehow withheld and the flower spikes cut off, leaving the foliage standing until new growth commences again from the ground. When the new shoots are advanced the old ones can be cut out, and another heavy feeding of quick acting fertilizer applied. In this manner you can have two good flowering seasons in one. In southern regions it is preferable to sow the seed in July/August, so that the plants can be in permanent location in October. They will develop large root system during winter and give very fine show in early March/April. The main factors for good success are sunny location, rich loamy soil, and continuous supply of moisture during the growing season.



Pacific Strain of

DELPHINIUM HYBRIDS

The names of our Delphinium series, with the exception of the blues, which have descriptive names, have been chosen from Tennyson's "Idylls of the King."

The Pacific Strain of delphinium has been in commerce for 25 years now and has become a standard for the highest quality in delphinium all over the world. Instead of making extravagant claims, we would like to let our flowers speak for themselves when you grow them.

LANCELOT SERIES

A clear lilac self with white bee. A rare color in Delphinium and one of the most beautiful. It has well-balanced spikes and carries large flowers of fine round form.

GUINEVERE SERIES

A clear, pink-lavender self, with white bee; with very large individual flowers averaging up to three inches in diameter. This is a true exhibition type and a beautiful garden plant.

CAMELIARD SERIES

Bicolor lavender with white bee, possessing classical perfection of form of the individual flowers, which are very round and attain very large size, averaging three inches in diameter. Beautifully balanced spikes, combined with excellent growing habits.

KING ARTHUR SERIES

This is still one of the most brilliant Delphiniums we have so far developed. The color is a rich, royal purple, with a velvety texture and large white bee, and the beautifully formed, long spikes are carried on thin, woody stems.

BLACK KNIGHT SERIES

The darkest violet. Individual flowers two and one-half to three inches in diameter; of beautiful round form, with heavy velvety texture, which gives the color luminosity and vividness not seen before in Delphinium. Very long, well-formed spikes; a true show flower with black bee.

ASTOLAT SERIES

Color variations extend from pale blush through all shades of lilac pink to deep raspberry rose with large fawn and black bees for contrast. The entire range is pictured on these pages.

ROUND TABLE SERIES

As the name implies, this represents all of the color combinations of the Knights and their Ladies which will eventually be introduced. This year some three hundred different crosses were used to make up this group, combining all the newest color developments and possessing size that will make them invaluable for show purposes.

The British Delphinium Society extends an invitation to join and receive its year book for \$2.50 per year. We shall gladly accept the amount and forward it to England for those who wish to join. Or send direct to John Clemson, 4 Holmsdale Rd., Streatham S.W. 16, England.

Contrary to the popular practice of naming individual plants, our aim is to produce a group of individual plants resembling each other as closely as possible, keep interbreeding them until the progeny brings a high percentage of specimens true to description, and then introduce it as a named series. In this manner we can offer new progressions of each series each year as the progeny always supercedes the parents.

SUMMER SKIES SERIES

Light, heavenly blue of a summer sky with white bees representing the fleecy clouds; a color long sought in the large hybrid Delphinium. They come almost 100% true to color from seed, with such a uniform growth that many experts who saw the planting last spring at our nursery, thought they were propagated from cuttings and could scarcely believe that they were seedlings. As a class this is the finest blue Delphinium today in existence.

BLUE BIRD SERIES

A true blue Delphinium has been the hardest thing to produce and we have been reserving the name Blue Bird to signify our best achievement in this color. We can safely recommend this series as being the clearest medium blues, with white bees. They not only come true to color but carry well-formed, round flowers $2\frac{1}{2}$ inches in diameter, on very long, graceful spikes. The habit is all one could desire in modern Delphinium and this series sets a new standard in blues of today.

BLUE JAY SERIES

Every Delphinium lover seeks the true blue color which is so rare in nature and so difficult to obtain. These series are our bid toward attaining it. The color is striking, clear medium to dark blue; very intense and alive, with dark, contrasting bee.

BLUE MIXTURE

Besides the named blue series we can supply a complete mixture of blues ranging from lightest to darkest blue with white, fawn and black bees. Each shade when stabilized will eventually be named, but at present all new crosses for that purpose are blocked into one mixture containing all the above series and a great many unusual new shades of blue.

GALAHAD SERIES

Our greatest achievement in giant whites, fully worthy of its name, which possesses all the qualities one expects to find in a fine Delphinium. The standard attained in this series is perhaps responsible for the wide popularity it met, ranking in demand next to the blues. The clear white flowers, with white bees, are of large size, reaching often three inches in diameter, combined with glistening, heavy texture.

PERCIVAL SERIES

A companion to the Galahad Series, of equally good quality. The large, glistening white flowers with strongly contrasting black bees are beautifully spaced on long, tapering spikes. Very vigorous and free growing habit.

PRICE OF SEED

Selected from finest new specimens, and of highest quality obtainable.

\$2.50 per packet (over 400 seeds)

\$1.25 per half packet (over 200 seeds)

Collection of any series on pages 12 and 13:

5 packets or 10 half packets \$10.00



DELPHINIUM PLANTS

During March and April and September and October we are offering *strong, young plants*, in twelve assorted shades, as marked from cross-pollinated seed. Transplanted, they will grow rapidly on and bring far better results in a shorter time than the old clumps. We prefer distribution of young seedlings rather than the one- or two-year-old clumps, which very seldom bring good results, as they are quite exhausted, and it takes a year at best to get them re-established, during which time the flowers are not at their best. Young seedlings will produce show specimens within four or five months after planting and continue blooming for several years. In California interior valleys where the climate is too warm, autumn planting, September and October, is preferable. Plants having time to establish good root systems during winter will bring beautiful spikes in early spring. Cooler regions will give good results from both autumn and spring plantings, except in heavy, cold soils, where spring planting is preferable.

SEEDLING PLANTS, FOB Capitola

\$3.50 per dozen, \$26.00 per 100

Orders for less than One Dozen not accepted



A RAINBOW OF OCTOBER COLORS IS ILLUSTRATED IN PART OF OUR 14 ACRE LATH HOUSE OF BEGONIA SEEDLINGS AT LA SELVA BEACH.



VETTERLE & REINELT

Hybridizing Gardens

CAPITOLA, CALIFORNIA

The Pacific strain of polyanthus primroses and delphinium hybrids have been consistent winners in all flower shows when entered, particularly those of Great Britain and New Zealand.